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Scout now for sudden death syndrome

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Abstract
Over the last 2 years, Iowa growers have seen a rapid spread of sudden death syndrome (SDS) in some Iowa counties. SDS was first reported in 1994 in four Iowa counties. Since then the disease has been found in 31 counties. Among other measures, preventing the spread of this disease is still an effective means of controlling the disease for the majority of Iowa soybean growers. Early detection of SDS is critical to control disease spread.

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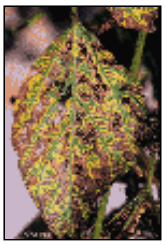
SDS is a fungal disease. In Iowa, SDS symptoms first appear in late July and early August. We have already observed diseased plants on our research plots this year. Symptoms are more obvious after the second week in August. When scouting, pay special attention to early-planted fields, especially in eastern Iowa, and fields that are flat, fertile, and expected to have high yields. Delayed planting does reduce disease development and late-planted soybean fields are less likely to have SDS.

SDS symptoms are fairly easy to identify. Infected plants initially show scattered yellow or white spots on the leaves. The irregular shape of the spots and the green areas around the leaf veins give SDS its characteristic mosaic pattern. The tissue in these spots starts to die and enlarges to form brown streaks between the veins (interveinal necrosis). Only the mid-vein and major lateral veins remain green. Symptoms are more pronounced on top leaves. Eventually, infected leaves drop but the petioles remain on the stems.



[1] **Close-up photo of a leaflet with interveinal necrosis symptoms.**

Diseased plants are easily pulled out of the ground because the taproots and lateral roots have deteriorated. The root cortex is light gray-brown and the discoloration may extend up into the stem. If the disease is severe during the early reproductive stage, flower and pod abortion may occur. For a more detailed description, see ISU Extension publication Pm 1570, *Soybean Sudden Death Syndrome*.

[2] **Field with severe sudden death syndrome damage.**

Close-up of soybean plants defoliated from sudden death syndrome. [3]

SDS may be mistaken for brown stem rot (BSR) and stem canker because these diseases show similar leaf symptoms. However, this summer is too warm for BSR development and we may not see BSR until fall when temperatures cool off. More importantly, SDS has symptoms on both leaves and roots. BSR and stem canker do not cause root rot. BSR also will show a discoloration in the pith.

Because SDS is new to many Iowans, growers are encouraged to send suspected plants to the ISU Plant Disease Clinic [4] at 351 Bessey Hall, Iowa State University, Ames, IA 50011. If you find SDS, consider doing something to prevent its spread. The fungus is soilborne and uses similar methods of spread as soybean cyst nematode. Measures used to prevent the spread of SCN are applicable to SDS. Currently, no resistant varieties are available for maturity groups 2 and 3 soybeans. Slowing down the spread and buildup of SDS buys you time until varieties resistant to SDS are developed. If the infestation is severe in a field, consider using tolerant cultivars the next time soybeans are grown.

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